d) identifying the test substance as an activator or inhibitor of the phosphoamidase by comparing the signal produced in the sample comprising the test substance with the signal produced in a control sample comprising no test substance.

Claim 6. (Withdrawn) A method for the identification of the activity of a phosphoamidase in an electrophoresis gel or on a blot membrane comprising the steps:

a) separating a sample comprising a phosphoamidase in a gel
b) if necessary, renaturation of the phosphoamidase
c) incubating the gel or the blot membrane resulting from blotting the gel with ELF®39 phosphate and/or ELF®97 phosphate as substrate, and
d) detecting the signal produced by the substrate

Claim 7. (Withdrawn) A method for the determination of the specificity of an inhibitor or activator for a certain phosphoamidase or phosphatase comprising the steps:

a) separating a sample comprising several phosphoamidases and/or phosphatases in a gel
b) optionally renaturing the phosphoamidase
c) incubating the gel or the blot membrane resulting from blotting the gel with the inhibitor or activator and subsequently with ELF®39 phosphate and/or ELF®97 phosphate as substrate, and
d) determining the specificity of the inhibitor or activator by comparing the signal produced in the gel or blot membrane incubated with the inhibitor or activator with the signal produced in a control gel or blot membrane not incubated with the inhibitor or activator.

Claim 8. (Original) A method according to claim 5 wherein the phosphoamidase is a protein phosphoamidase.

Claim 9. (Original) A method according to claim 8 wherein the protein phosphoamidase is a protein histidine phosphoamidase.

Claim 10. (Original) A method according to claim 9 wherein the protein histidine phosphoamidase is PHP1.

Claim 11. (Currently Amended) A method of claim 1 wherein the substrate is ~~selected from the group consisting of~~ DiFMUP (6,8-difluoro-4-methylum-belliferyl phosphate), FDP (fluorescein diphosphate), ELF®39 phosphate (2-(2′-phosphophenyl)-4-(3H)-quinazolinone) ~~and~~ or ELF®97 phosphate (2-(5′-chloro-2′-phosphophenyl)-6-chloro-4-(3H)-quinazolinone).

Claim 12. (Currently Amended) A method of claim 5 wherein the substrate is ~~selected from the group consisting of~~ DiFMUP (6,8-difluoro-4-methylum-belliferyl phosphate), FDP (fluorescein diphosphate), ELF®39 phosphate (2-(2′-phosphophenyl)-4-(3H)-quinazolinone) ~~and~~ or ELF®97 phosphate (2-(5′-chloro-2′-phosphophenyl)-6-chloro-4-(3H)-quinazolinone).

Claim 13. (Previously Presented) A method of claim 1 which is conducted in liquid phase, semi-solid phase, or solid phase.

Claim 14. (Previously Presented) A method of claim 5 which is conducted in liquid phase, semi-solid phase, or solid phase.

Claim 15. (Previously Presented) A method of claim 1 wherein said liquid phase is buffer-based, said semi-solid phase is gel-based, and said solid phase is blot-based.

Claim 16. (Previously Presented) A method of claim 5 wherein said liquid phase is buffer-based, said semi-solid phase is gel-based, and said solid phase is blot-based.

Claim 17. (New) A method of claim 10 wherein the substrate is DiFMUP (6,8-difluoro-4-methylum-belliferyl phosphate), FDP (fluorescein diphosphate),

ELF®39 phosphate (2-(2′-phosphophenyl)-4-(3H)-quinazolinone) or ELF®97 phosphate (2-(5′-chloro-2′-phosphophenyl)-6-chloro-4-(3H)-quinazolinone).

Claim 18. (New) A method for the identification of an inhibitor or activator of a phosphoamidase histidine phosphoamidase 1 (PHP1) comprising:

a) establishing a sample comprising said PHP1 and a test substance,

b) administering a substrate selected from the group consisting of FDP, DDAO, DiFMUP, ELF®39 phosphate and ELF®97 phosphate to the sample,

c) detecting the signal produced by the hydrolysis of the phospho-ester bond (P-O) of the substrate, and

d) identifying the test substance as an activator or inhibitor of said PHP1 by comparing the signal produced in the sample comprising the test substance with the signal produced in a control sample comprising no test substance.